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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/992,902

11/14/2001

Paul John Zuraw

CHR 00-77

5676

36876

7590

05/17/2005

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EXAMINER

PIAZZA CORCORAN, GLADYS JOSEFINA

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/992,902

Applicant(s)

ZURAW ET AL.

Examiner

Gladys JP Corcoran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 8-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/6/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Claims 8-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group II, there being no allowable generic or linking claim. Election was made **without** traverse in the paper filed January 29, 2004.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-5, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagen (US Patent No. 3,215,579) in view of Bradner (US Patent No. 2,229,621).

Hagen discloses a method releasing laminates from one another in a heat and pressure consolidated press pack (column 1, lines 9-24) by arranging a plurality of

thermosetting synthetic resin-impregnated fibrous core sheets in a superimposed relationship in groups of at least two stacks (column 2, lines 1-2, 26-53), separating the stacks from one another with a release sheet (column 2, lines 45-47) comprising a cellulosic based paper substrate (column 3, line 14) with a salt treatment of at least one surface of the substrate during formation of the substrate via the application to the surface of an aqueous solution comprising at least one water-soluble multivalent salt (column 3, lines 14-20, 52-57) in an amount sufficient to provide a solids content of about 0.01% to about 3% by weight based upon the dry weight of the substrate (column 3, lines 57-62) and the substrate is coated after formation on at least one salt-treated surface with a film comprising at least one salt of alginic acid (column 3, lines 65-70), consolidating the stacks of core sheets and release sheet by the application of heat and pressure and separating the resulting laminates from one another at the locus of the release sheet (column 2, lines 60-68).

Hagen discloses providing a sizing compound of a salt solution to the paper substrate (column 3, lines 51-62). It is unclear at what point of the formation of the paper substrate the sizing compound is applied, however it appears the sizing is applied once the paper substrate is in a web form. However, it is well known in the paper making arts to provide a sizing coating to a paper substrate while the paper substrate is still "on the forming machine" in order to reduce costs. For example, Bradner discloses a method of sizing a paper substrate with an aqueous coating composition where the sizing is applied "during the formation of the substrate" while the substrate is still "on machine" as an alternative to coating the sizing after formation of the substrate or "off-

machine" in order to reduce time, labor and capital investment (column 1, lines 4-39). It is noted that one of the examples of sizing coatings that Bradner lists is a salt coating (calcium carbonate). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the method of forming the releasing laminate as shown by Hagen by coating the water soluble salt sizing during the formation of the paper substrate as is well known in the art as a cost saving alternative to coating off-machine as exemplified by Bradner.

As to claim 2, Hagen discloses that the salt is applied in an amount sufficient to provide a solids content of about 0.05% to about 1% by weight based upon the dry weight of the substrate (column 3, lines 57-61). As to claim 3, Hagen discloses that the salt is applied in an amount sufficient to provide a solids content of about 0.1% to about .5% by weight based upon the dry weight of the substrate (column 3, lines 57-61). As to claim 4, Hagen discloses all the salts as claimed (column 3, lines 37-51). As to claim 5, Hagen discloses all the salts as claimed (column 3, lines 37-51). As to claim 7, Hagen discloses all the alginic acid salts as claimed (column 4, lines 12-15).

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hagen in view of Bradner as applied to claim 1 above, and further in view of Malhotra et al. (US Patent No. 6,171,702) (optionally in view of Bauer ("Corrosivity of Calcium Salt Solutions" cited in the IDS filed December 6, 2004).

Hagen discloses that the water-soluble salt is selected from a wide variety of salts of common alkaline earth metals including salts derived from calcium (column 3, lines 37-51), however Hagen does not appear to specifically disclose calcium

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propionate as an example. However, it is well known in the art of coating paper substrates to use a variety of commercially available calcium salts including calcium propionate. It would have been well within the purview of one of ordinary skill in the art at the time of the invention to select a well known, commercially available salt for the method shown in Hagen. Furthermore, Malhotra discloses an example of a method of coating paper where the water soluble salt is a calcium propionate (column 4, lines 55-61). Bauer is optionally cited to further show that it was known in the art at the time of the invention to use a calcium propionate as an alternative to other calcium salts for coating paper webs in order to reduce the corrosivity of the machinery. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the method of forming the releasing laminate as shown in Hagen and Bradner by selecting a well known, commercially available calcium salt of calcium propionate as would have been well within the purview of one of ordinary skill in the art and further exemplified as known in the art of coating paper as exemplified by Malhotra and optionally in order to reduce corrosivity of the equipment as exemplified by Bauer, only the expected results would be attained.

***Response to Amendment***

6. The Declaration under 37 CFR 1.132 filed December 6, 2004 by Dr. Fritz G. Paulsen is insufficient to overcome the rejection of the claims based upon Hagen in view of Bradner and optionally further in view of Malhotra as set forth in the last Office action filed April 13, 2004 because:

The declaration by Dr. Fritz G. Paulsen asserts on page 2 that "[p]rior to the applicants' invention it was believed by those skilled in the art that the application of salts as taught by applicant on-machine to a cellulosic-based paper substrate (such as saturating kraft paper and the like) was not feasible due to absorption problems and other potential adverse effects to both the substrate and the paper machine." However, there is no actual factual evidence to support this assertion see MPEP 716.01(c).

The declaration by Dr. Fritz G. Paulsen asserts on page 2 that "[i]t was, therefore, totally unexpected that such salts could be applied on-machine during formation of cellulosic-based paper substrate in such a manner as to ensure that the substrate retained a sufficient amount of salt on its surface to permit effective cross-linking of the alginate." However, there is no actual factual evidence to support this assertion see MPEP 716.01(c), 716.02.

The declaration by Dr. Fritz G. Paulsen asserts on page 3, paragraph 4 that "[t]here has been a long felt but unsatisfied need for an improved method of releasing laminates, specifically for release sheets having enhanced release characteristics for use in the production of laminates" and that "Evidence of this long felt need and the fact that those skilled in the art were working on the problem is shown in the following listing of 66 experimental machine trials ran by Westvaco over the period of 1994-2001 - each of which attempted to develop release sheets with enhanced release characteristics." The listing of trials is not a sufficient showing that others of ordinary skill in the art were working on the problem of applying an aqueous solution of at least one water soluble multivalent salt on-machine in a method of releasing laminates from one another. In

addition, there is no evidence that if persons skilled in the art who were presumably working on the problem knew of the teachings of the above cited references, they would still be unable to solve the problem. See MPEP § 716.04. The listing of experimental machine trials only shows that Westvaco had trials for developing release sheets with no other detail. There is no indication that others of ordinary skill in the art were working on the problem that Applicant asserts is solved by the claimed invention.

The declaration by Dr. Fritz G. Paulsen asserts on page 6, paragraph 5 that one skilled in that art would understand from teachings contained in Hagen that the paper web is finished paper and not paper being formed "on-machine"; that it is recognized by skilled artisans that there are a number of problems with Hagen's process; and that the teachings in Hagen would not teach or suggest the applicant's method. Such assertions are opinions without factual basis and such opinions have little weight when considered in light of all the evidence of record in the application see MPEP 716.01(c).

The declaration by Dr. Fritz G. Paulsen asserts on page 7, paragraph 5 that applicant's method improves on the Hagen process and eliminates expensive post-treatment sizing operation. These are the exact reasons that the reference Bradner teaches for providing coatings on-machine instead of off-machine and thus teaches the motivation for providing the coatings on-machine. Therefore, these assertions do not overcome the obviousness rejection.

The declaration by Dr. Fritz G. Paulsen asserts on page 7, paragraph 6 that the reference Bradner teaches significantly different coatings than claimed by applicants, that the coating taught by applicant can not form a filter cake layer as taught by



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Bradner, and that the paper formed by Bradner would be understood by skilled artisans to not be suitable for use in the production of high pressure laminates. These assertions ignore the motivation taught in Bradner that it is known in the prior art to provide coatings for paper on-machine as opposed to off-machine in order to reduce costs. The reference Hagen discloses the particular coating as claimed by Applicant. Additionally, such assertions are opinions without factual basis and such opinions have little weight when considered in light of all the evidence of record in the application see MPEP 716.01(c).

The declaration by Dr. Fritz G. Paulsen asserts on page 8, paragraph 7 that the coatings taught by Malhotra significantly differ from the solutions taught by applicant. This assertion ignores the basis of the rejection. Hagen discloses that the water-soluble salt is selected from a wide variety of salts of common alkaline earth metals including salts derived from calcium (column 3, lines 37-51), however Hagen does not appear to specifically disclose calcium propionate as an example. However, it is well known in the art of coating paper substrates to use a variety of commercially available calcium salts including calcium propionate. It would have been well within the purview of one of ordinary skill in the art at the time of the invention to select a well known, commercially available salt for the method shown in Hagen. Malhotra is merely cited as an example that it is known to coat papers with calcium propionate.

The declaration by Dr. Fritz G. Paulsen asserts on page 4 that the references would not teach or suggest the applicant's improved method of releasing laminates to a skilled artisan. Such assertions are opinions without factual basis and such opinions

have little weight when considered in light of all the evidence of record in the application see MPEP 716.01(c).

7. In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

***Response to Arguments***

8. Applicant's arguments filed December 6, 2004 have been fully considered but they are not persuasive.

Applicant argues on page 2 that the declaration by Dr. Fritz G. Paulsen states that one skilled in the art would understand from the Hagen patent that the paper web is finished paper and not in the process of being formed on-machine. As previously discussed, Bradner is cited as an example of how it is known in the paper art to coat paper webs on-machine in order to reduce the costs associated with coating finished paper webs.

Applicant argues on page 2 that there are problems with the Hagen method with excessive absorption. Whether there are problems with the finished product in Hagen is irrelevant as to whether it is obvious to provide the method of coating the paper in Hagen on-machine as is known in the art and exemplified by Bradner in order to reduce costs.

Applicant argues on page 3 that Applicant's method significantly improves upon the process taught by Hagen by eliminating the expensive post-treatment sizing operation. This is the exact motivation that is known to those of ordinary skill in the art as exemplified by Bradner.

Applicant argues on page 3 that the declaration by Dr. Paulsen states that prior to the applicants' invention it was believed by those skilled in the art that the application of salts on-machine to a paper was not feasible due to absorption problems and other potential adverse effects to both the substrate and the paper machine; and that such was totally unexpected that such salts could be applied on-machine. As discussed above, such assertions are not supported by any actual factual evidence see MPEP 716.01(c), 716.02. It is noted that Applicants cite that evidence of absorption problems inherent in the production of traditional release sheets is found in US Patent No. 4,510,199. Again, problems with the resulting product of Hagen are irrelevant to the obviousness statement.

Applicant argues on page 4 that one skilled in the art would reasonably expect these absorption problems to be significantly magnified if one was to attempt to apply an aqueous solution of water soluble multivalent salt on-machine during formation of the cellulosic-based paper substrates. There is no evidence of such an assumption.

Applicant argues on page 4 that applications of salt-solutions to paper substrates have also had adverse effects to machines as shown in the August 23, 1994 technical memorandum submitted in the IDS filed December 6, 2004. The memorandum shows that salt solutions corrode metal parts of machinery and that calcium propionate was found to not corrode the machinery. It is unclear how this rebuts the reasons for the obviousness statement over the claims.

Applicant argues on pages 4 to 5 that it was unexpected that such water soluble salts could be applied on-machine during formation of cellulosic based paper substrates

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in such a manner as to ensure that the substrate retained a sufficient amount of salt on its surface to permit effective cross-linking of the alginate. There is no evidence provided to show that it is unexpected. Additionally, there is nothing particular in the claims or in Applicant's invention that was done in order to ensure the proper application of the salt and effective cross-linking.

Applicant argues on pages 5 and 6 that the method and the coating composition taught by Bradner differ from that taught by applicant's; that Bradner teaches the use of coating compositions which contain solids in liquid suspension applied in a manner to form a firm filter cake layer; that one skilled in the art would recognize that the solutions claimed by applicant significantly differ from that claimed by Bradner; and that does not teach or suggest the application on-machine of an aqueous solution of water-soluble salts to cellulosic based paper substrates. The rejection is based on the method and coating composition as taught by Hagen in view that it is well known in the art to apply coatings to papers on-machine instead of off-machine in order to reduce the costs of forming the paper. Bradner is merely cited to show that this concept is known in the art. One of ordinary skill in the art performing the method as shown by Hagen would be motivated to provide the coating on-machine in order to reduce costs as is known in the art and exemplified by Bradner.

Applicant argues on page 6 that the declaration by Dr. Paulsen states that there has been a long felt but unsatisfied need an for improved method of releasing laminates evidenced by the patents listed and the 66 experimental trials. As discussed above, there is no showing that others of ordinary skill in the art were working on the problem

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and if so, for how long. In addition, there is no evidence that if persons skilled in the art who were presumably working on the problem knew of the teachings of the above cited references, they would still be unable to solve the problem. See MPEP § 716.04. As to the patents and the experimental trials, these merely show that those in the art were testing different methods of forming release sheets, not that those in the art were trying to provide a water soluble multivalent salt on-machine and couldn't.

Applicant argues on page 7 that the declaration of Dr. Paulsen states that one of ordinary skill in the art would recognize that the coating in Malhotra significantly differs from that taught by applicant and would not be suitable for the production of high pressure laminated materials. As discussed above, Hagen discloses that the water-soluble salt is selected from a wide variety of salts of common alkaline earth metals including salts derived from calcium (column 3, lines 37-51), however Hagen does not appear to specifically disclose calcium propionate as an example. However, it is well known in the art of coating paper substrates to use a variety of commercially available calcium salts including calcium propionate. It would have been well within the purview of one of ordinary skill in the art at the time of the invention to select a well known, commercially available salt for the method shown in Hagen. Malhotra is merely cited as an example that it is known to coat papers with calcium propionate.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gladys JP Corcoran whose telephone number is (571)

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272-1214. The examiner can normally be reached on M-F 8am-5:30pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Gladys JP Corcoran  
Primary Examiner  
Art Unit 1733

GJPC